REMARKS

Herein, the "Action" or "Office Action" refers to the Office Action dated 11/19/2004.

Applicant respectfully requests reconsideration and allowance of all of the claims of the application. Claims 1-17, 56-61, and 70 are presently pending. Claims amended herein are 5, 6, and 11. Claims withdrawn or cancelled herein are 18-55, 62-69, 71, and 72. New claims added herein are none .

Election of Claims

The undersigned Attorney for Applicant affirms the provisional election (without traverse) made during a phone conversation with the Examiner on October 29, 2004. Applicant expressly elects claims 1-17, 56-61, and 70. While non-elected claims 18-55, 62-69, 71, and 72 are withdrawn from consideration herein, Applicant expressly reserves the right to file one or more children or sibling applications that include the claims withdrawn here.

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Formal Claim Objections

Under 37 CFR 1.75(c), the Office objects to claims 2-10, 12-15, and 57-61 as being of improper dependent form for failing to further limit the subject matter of a previous claim.

Applicant submits that the subject claims (2-10, 12-15, and 57-61) are, in fact, in a proper and commonly used dependent form. They do, indeed, further limit the subject matter of a previous claim. If they don't further limit the subject matter, then they must necessarily be identical or be broader than the claims from which they depend.

Applicant asks the Office to identify how the subject claims are identical to or broader than the claims from which they depend. If they are neither identical nor broader, then Applicant asks the Office to identify the formatting issues and do so with particularity.

Formal Claim Rejections

Claim Rejections under §112

Under 35 USC §112, 2nd paragraph, Office rejects claims 5,6, and 11 as being indefinite for failing to particularly point out and distinctly claim the subject matter with Applicant regards as the invention.

In particular, the Office indicates that the recitation of "the amalgamating" in claims 5 and 6 lack a sufficient antecedent basis. Accordingly, Applicant amends these claims so that they depend from claim 4 which includes an "amalgamating" act.

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Furthermore, the Office indicates that the recitation of "the obtaining" in claim 11 lacks a sufficient antecedent basis. Accordingly, Applicant amends this claim to remove "the obtaining."

Substantive Claim Rejections

Claim Rejections under §§ 102 and 103

The Office rejects all of the pending claims (1-17, 56-61, and 70) under §102 and/or §103. For the reasons set forth below, the Office has not shown that the cited reference anticipate the rejected claims. For the reasons set forth below, the Office has not made a *prima facia* case showing that the rejected claims are obvious (under §103). Accordingly, Applicant respectfully requests that the rejections be withdrawn and the case be passed along to issuance.

The Office's rejections are based upon the following references:

- **Alattar**: *Alattar et al.*, US Pub. No. US 2002/0009208 (filed 4/17/2001); and/or
- **Zhao**: *Zhao et al.*, US Patent No. 6,243,480 (issued 6/5/2001).

Overview of the Application

The Application describes a technology facilitating rights enforcement of digital goods using watermarks and a fingerprinting technology for protecting digital goods by detecting collusion as a malicious attack and identifying the participating colluders. With this technology, digital goods are protected by a mechanism that detects collusion and colluders. In other words, with this

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technology, digital goods are protected by identifying that a digital good has had its mark removed and who removed that mark. That way, piracy crimes can be more effectively investigated.

The Application describes a technology characterized by limited BORE-resistance at the protocol level. (BORE is "break once, run everywhere.") If a digital pirate breaks one client and enables this client to avoid watermark detection, all content (both marked/protected an unmarked/free) can be played as unmarked only on that particular client. However, to enable other clients to play content as unmarked, the digital pirate needs to collude the extracted detection keys from many clients in order to create content that can evade watermark detection on all clients.

The Application describes a technology that significantly improves collusion resistance through a fingerprinting mechanism that can identify the members of a malicious coalition even when their numbers are several orders of magnitude greater than what conventional collusion-protection schemes can accomplish. Consequently, the confidence level—that a marked digital good is free from the effects of collusion—may be very high indeed. Each watermark detection key is distinct for all clients and thus contains a fingerprint associated with its corresponding client. The adversary coalition colludes their keys to create the optimal estimate of the embedding watermark. However, in this scenario each member of the malicious coalition leaves a fingerprint in every digital good from which the estimated watermark is subtracted

Since, with this technology, a watermark detector uses its assigned "fingerprint" (as part of the secret detection key) to detect a watermark embedded in a digital good, an digital pirate (or group of such pirates) leaves her

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"fingerprint" when she removes (or modifies) the embedded watermark. Thus, like a burglar without gloves, the digital pirate leaves her fingerprints when she commits a crime.

Unlike conventional fingerprinting technologies, the technology described by the Application does not mark each copy of the content individually. The pirate marks the content when committing the crime.

Cited References

The Office cites **Alattar** as its reference for is anticipation-based rejections and the primary references in its obviousness-based rejections. The Office cites **Zhao** as its secondary reference in its obviousness-based rejection.

Alattar

Alattar describes a digital watermark technology for encoding auxiliary data into a host signal are used to authenticate physical and electronic objects. One method computes a content specific message dependent on the host signal, encodes the content specific message into a watermark signal, and embeds the watermark in the host signal such that the watermark signal is substantially imperceptible in the host signal.

One specific implementation of **Alattar** embeds data representing salient features of the host signal into the watermark. For example, for photo IDs, the method embeds the spatial location of salient features of the photo into the watermark. Another implementation computes a semi-sensitive hash of the host signal, such as a low pass filtering of the signal, and embeds the hash into the

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watermark. The watermark signal may be content dependent by making the watermark key dependent on some attribute of the signal in which the watermark is embedded.

Another approach of **Alattar** is to make the watermark key dependent on a user or an attribute of the user.

Yet another approach of **Alattar** is to use multiple watermark components and multiple watermark detection stages that help identify and screen out invalid watermark signals.

Alattar also discloses a technology for authenticating a media object by transforming a media signal to a frequency domain comprising an array of frequency coefficients. It selects a first set of frequency coefficients, and alters the selected first set of frequency coefficients so that values of the coefficients in the set correspond to a pattern. The pattern of the media signal is authenticated by comparing a pattern of the values of the frequency coefficients in the set with an expected pattern.

Zhao

Zhao describes techniques for protecting the security of digital representations, and of analog forms made from them. The techniques include authentication techniques that can authenticate both a digital representation and an analog form produced from the digital representation, an active watermark that contains program code that may be executed when the watermark is read, and a watermark agent that reads watermarks and sends messages with information concerning the digital representations that contain the watermarks.

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The authentication techniques use semantic information to produce authentication information. Both the semantic information and the authentication information survive when an analog form is produced from the digital representation. In one embodiment, the semantic information is alphanumeric characters and the authentication information is either contained in a watermark embedded in the digital representation or expressed as a bar code. With the active watermark, the watermark includes program code. When a watermark reader reads the watermark, it may cause the program code to be executed. One application of active watermarks is making documents that send messages when they are operated on.

A watermark agent may be either a permanent resident of a node in a network or of a device such as a copier or it may move from one network node to another. In the device or node, the watermark agent executes code which examines digital representations residing in the node or device for watermarked digital representations that are of interest to the watermark agent. The watermark agent then sends messages which report the results of its examination of the digital representations. If the watermarks are active, the agent and the active watermark may cooperate the agent may cause some or all of the code than an active watermark contains to be executed.

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Anticipation Rejections

Anticipation Rejections Based upon Alattar

The Office rejects claims 1-11, 13-17, 56-61, and 70 under USC § 102(e) as being anticipated by **Alattar**. Applicant respectfully traverses the rejections of these claims. Based on the reasons given below, Applicant asks the Office to withdraw its rejections of these claims.

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Claims 1, 3-6, 8, 16, 17, 56-59, and 70

In its rejection of these claims, the Office states the following on pages 5 and 6 of the Action:

> 19. Claims 1-11, 13-17, 56-61, 70 are rejected under 35 U.S.C. 102(e) as being anticipated by Alattar, US 2002/0009208. Referring to claims 1, 3-6, 8, 16, 17, 56-59, 70, Alattar discloses digital watermark authentication method wherein the watermarking message is combined in one of a variety of ways (Page 6, [0082]) with a random carrier signal to create a key for the embedding of the watermark message into the host signal (Page 6, [0077]-[0082]), which meets the limitation of generating a fingerprint, the fingerprint being associated with a watermark, producing a pseudorandom watermark carrier that is independent of the watermark, combining or amalgamating the carrier and the watermark to generate the fingerprint, a marker configured to embedded the watermark into a digital good, and embedding the watermark into a digital good without embedding the fingerprint.

Applicant submits that the Office has not shown that each element and each feature disclosed in these claims are disclosed by **Alattar**. In particular, Applicant submits that **Alattar** does not disclose generation of a fingerprint. While **Alattar** discloses the generation and use of watermarks, it does not disclose the generation of a fingerprint and, indeed, never mentions fingerprints.

Specifically, independent claims 1 and 70 recites, "generating fingerprint..." and independent claim 56 recites, "a key generation entity configured to generate...fingerprints."

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Pages 3 and 4 of the Application discuss conventional or "classic fingerprint" technology. Such technology involves uniquely marking each specific copy (i.e., instance) of a particular digital good and associating each uniquely marked specific copy with a "classic fingerprint." Like a fingerprint of a human uniquely identifies a person (i.e., instance of human), a fingerprint of a digital good uniquely identifies the specific copy (i.e., instance of a digital good) of that digital good. Typically, a fingerprint of a digital good is associated with an authorized licensee for the digital good. Therefore, discovery of a fingerprint in a digital good leads to the authorized licensee.

Alattar never discusses this. It never discusses "classic fingerprinting." It never mentions fingerprinting in any capacity. It never alludes to these purposes.

With regard to the term "fingerprinting" as used in the description of the implementations, lines 8-13 on page 12 of the Application says this:

> ...the term "fingerprinting" may refer to a similar, but distinctly different technology [from the "classic fingerprinting" technology]. More specifically, the fingerprint of [the] descriptions [of the implementations herein] operates in a manner that is more analogous to the metaphor of forensic investigation. It is more like gathering evidence for a crime scene investigation. More specifically, it is more like gathering fingerprints to help identify and catch a criminal.

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Alattar never discusses this. It never discusses "fingerprinting" in the manner described by the Application in its description of the implementations. Again, it never mentions fingerprinting in any capacity. Instead, **Alattar**'s purpose is focused authorizing use of a media signal based upon watermarks.

As shown above, the Office cites paragraphs 77-82 on p. 6 of **Alattar** to support its position that **Alattar** discloses fingerprint generation. In particular, the Office states this (with emphasis added): "**Alattar** discloses digital watermark authentication method[s] wherein the watermarking message is combined in a variety of ways (Page 6, [0082]) with a random carrier signal to create a key for the embedding of the watermark message into the host signal (Page 6, [0077]-[0082]), **which meets the limitation of generating a fingerprint.**"

Applicant fails to how the Office reaches its conclusion ("which meets the limitation of generating a fingerprint") based upon the preceding facts. Since **Alattar** never expresses any concern or suggests the desirability of associating specific instances of a media signal with an identifying code (e.g., a fingerprint), Applicant submits that **Alattar** can not be reasonably construed generate a fingerprint.

In addition to being non-anticipatory, Applicant submits that **Alattar** does not provide objective evidence in order to support a combination with another (as of yet, unidentified) reference for the purpose of obviating these claims. **Alattar** never suggests, teaches, discloses, or provides any reason that would motivate one skilled in the art to employ fingerprint or forensic technology in association with its watermarks.

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As shown above, **Alattar** does not disclose all of the claimed elements and features of these claims. Accordingly, Applicant asks the Office to withdraw its rejection of these claims.

Claims 2-17

These claims ultimately depend upon independent claim 1. As discussed above, claim 1 is allowable.

In addition to its own merits, each of these dependent claims is allowable for the same reasons that its base claim is allowable. Applicant submits that the Office withdraw the rejection of each of these dependent claims because its base claim is allowable.

Claims 57-61

These claims ultimately depend upon independent claim 56. As discussed above, claim 56 is allowable.

In addition to its own merits, each of these dependent claims is allowable for the same reasons that its base claim is allowable. Applicant submits that the Office withdraw the rejection of each of these dependent claims because its base claim is allowable.

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Obviousness Rejections

Lack of *Prima Facie* Case of Obviousness (MPEP § 2142)

Applicant disagrees with the Office's obviousness rejections. Arguments presented herein point to various aspects of the record to demonstrate that all of the criteria set forth for making a *prima facie* case have not been met.

Based upon Alattar and Zhao

The Office rejects claim 12 under USC § 103(a) as being unpatentable over **Alattar** as modified by **Zhao**. Applicant respectfully traverses the rejection of this claim. Applicant asks the Office to withdraw its rejection of this claim.

Claim 12

This claim ultimately depends upon independent claim 1. As discussed above, claim 1 is allowable.

In addition to its own merits, this dependent claim is allowable for the same reasons that its base claim is allowable. Applicant submits that the Office withdraw the rejection of this dependent claim because its base claim is allowable.

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Dependent Claims

In addition to its own merits, each dependent claim is allowable for the same reasons that its base claim is allowable. Applicant submits that the Office withdraw the rejection of each dependent claim where its base claim is allowable.

Conclusion

All pending claims are in condition for allowance. Applicant respectfully requests reconsideration and prompt issuance of the application. If any issues remain that prevent issuance of this application, the Office is urged to contact the undersigned attorney before issuing a subsequent Action.

Respectfully Submitted,

Dated: 3-14-05 By: _____

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